

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Currently Amended) ~~A device~~ An elongate electrode array device for implantation into a cochlea, comprising:

an elongate carrier member;

~~including~~ at least one electrode mounted on said carrier member;~~thereon;~~ and

a tip member extending distally from a distal end of said elongate carrier member, ~~said tip member comprising a tapered portion tapering distally and a blunt end portion at a distal end of said tapered portion, wherein said tip member is resiliently flexible wherein said~~ tip member is configured such that said tip member prevents substantial foldover of said tip toward said proximal end of said carrier member when a deflection/impact force is applied to said tip member during implantation into the cochlea.

2. (Currently Amended) The device of claim 1, wherein said tip member ~~further comprises~~ comprises:

a barrel portion at a proximal end of said tip member;

a frusto-conical tapered portion at a distal end of said barrel portion, said tapered portion tapering distally; and

a blunt end portion at a distal end of said tapered portion.~~and~~

~~wherein said tapered portion extends distally from a distal end of said barrel portion.~~

3. (Original) The device of claim 2, wherein said barrel portion is substantially cylindrical in shape.

4. (Original) The device of claim 3, wherein said elongate member distal end has a greater diameter or minimum width than the diameter of said barrel portion, wherein a liquid silicone rubber adhesive is used to adhere said tip member to said elongate member, and wherein said liquid silicone rubber adhesive is used to form a tapered region in a gap formed by said elongate member distal end and said barrel portion.
5. (Currently Amended) The device of ~~claim 3~~, claim 2, wherein said barrel portion is about 0.4 mm in length.
6. (Currently Amended) The device of ~~claim 3~~, claim 2, wherein said barrel portion is about 0.45 mm in diameter.
7. (Cancelled)
8. (Currently Amended) The device of ~~claim 7~~, claim 2, wherein said tapered portion tapers continuously.
9. (Currently Amended) The device of ~~claim 7~~, claim 2, wherein the proximal-to-distal length of said tapered portion is about 0.76 mm.
10. (Currently Amended) The device of ~~claim 7~~, claim 2, wherein said diameter of said tapered portion decreases from about 0.45 mm at a proximal end of said tapered portion to about 0.2 mm at said distal end of said tapered portion.
11. (Currently Amended) The device of ~~claim 7~~, claim 2, wherein the angle between notional diametrically opposed sides of said tapered portion is about 18.9°.
12. (Currently Amended) The device of ~~claim 1~~, claim 2, wherein said blunt end portion has a part-ellipsoidal shape.
13. (Currently Amended) The device of ~~claim 1~~, claim 2, wherein said blunt end portion has a part-spherical shape.

14. (Currently Amended) The device of ~~claim 1~~, claim 2, wherein said tip member is integral with said elongate member.

15. (Currently Amended) The device of ~~claim 1~~, claim 2, wherein said tip member is mounted on said distal end of said elongate carrier member.

16. (Currently Amended) The device of ~~claim 1~~, claim 2, wherein said tip member comprises:
~~includes~~

a lumen radially-disposed within said tip member. ~~therein.~~

17. (Currently Amended) The device of claim 16, wherein elongated carrier member further comprises:

~~includes~~ a lumen extending therethrough, said lumen configured to allow therein for
~~allowing~~ a stiffening element to be inserted through said elongate carrier member and ~~for~~
~~allowing to allow~~ a distal end of said stiffening element to extend ~~extends~~ into said lumen in
said tip member.

18. (Cancelled)

19. (Cancelled)

20. (Original) The device of claim 1, wherein said tip member has substantially uniform bending stress distribution in an axial direction.

21. (Original) The device of claim 1, wherein said tip member is adhered to said elongate member using a liquid silicone rubber adhesive.

22. (Cancelled)

23. (Cancelled)

24. (Currently amended) A method for making an elongate electrode array device for implantation into a cochlea, the method comprising: ~~a device comprising the steps of:~~

(a) ~~providing an elongate carrier member having at least one electrode mounted thereon; and~~

(b) ~~mounting a tip member on a distal end of said elongate member so that said tip member extends distally from said distal end of said elongate carrier member;~~

~~wherein said tip member comprises a barrel portion, a tapered portion tapering distally from at distal end of said barrel portion and a blunt end portion at a distal end of said tapered portion, wherein said tip member has a substantially uniform bending stress distribution in an axial direction and wherein said tip member has a shape and size that allows said tip member to be inserted in a human cochlea.~~

25. (Currently Amended) The method of claim 24, wherein ~~step (a)~~ said mounting comprises:

adhering said tip member to said elongate member using a liquid silicone rubber adhesive.

26. (Original) The method of claim 25, wherein said elongate member distal end has a greater diameter or minimum width than the diameter of said barrel portion, and wherein said method further comprises using said liquid silicone adhesive to form a tapered region in a gap formed by said elongate member distal end and said barrel portion.

27. (Cancelled)

28. (Currently Amended) The method of ~~claim 27~~ claim 24, wherein said electrode is part of a means for applying a tissue stimulation.

29. (New) An elongate electrode array device for implantation into a cochlea, the device being subject to deflection/impact forces during implantation, comprising:

an elongate carrier member;

at least one electrode mounted on said carrier member; and

a tip member extending distally from a distal end of said elongate carrier member, said tip member dimensioned such that said tip member operates as a constant-strength cantilever beam when the deflection/impact forces are applied to said tip member during implantation.

30. (New) The device of claim 29, wherein bending stresses through said tip member are substantially equal to bending stresses at the junction of said tip member and said elongate carrier member.

31. (New) The device of claim 29, wherein said elongate carrier member and said tip member have cross-sections that maximize alignment between said elongate carrier member and said tip member when said tip member is attached to said elongate carrier member during production.

32. (New) The device of claim 29, wherein said elongate carrier member is substantially tubular, and wherein said tip member has a substantially circular cross-section.

33. (New) The device of claim 29, wherein said tip member has a portion that is partially frusto-conical tapered in shape.

34. (New) The device of claim 29, wherein said tip member comprises:

a barrel portion at a proximal end of said tip member;

a frusto-conical tapered portion at a distal end of said barrel portion, said tapered portion tapering distally; and

a blunt end portion at a distal end of said tapered portion.

35. (New) The device of claim 34, wherein said barrel portion is substantially cylindrical in shape.

36. (New) The device of claim 35, wherein said elongate member distal end has a greater diameter or minimum width than the diameter of said barrel portion, wherein a liquid silicone rubber adhesive is used to adhere said tip member to said elongate member, and wherein said liquid silicone rubber adhesive is used to form a tapered region in a gap formed by said elongate member distal end and said barrel portion.

37. (New) The device of claim 34, wherein said barrel portion is about 0.4 mm in length.

38. (New) The device of claim 34, wherein said barrel portion is about 0.45 mm in diameter.

39. (New) The device of claim 34, wherein said tapered portion tapers continuously.

40. (New) The device of claim 34, wherein the proximal-to-distal length of said tapered portion is about 0.76 mm.

41. (New) The device of claim 34, wherein said diameter of said tapered portion decreases from about 0.45 mm at a proximal end of said tapered portion to about 0.2 mm at said distal end of said tapered portion.

42. (New) The device of claim 34, wherein the angle between notional diametrically opposed sides of said tapered portion is about 18.9°.

43. (New) The device of claim 34, wherein said blunt end portion has a part-ellipsoidal shape.

44. (New) The device of claim 34, wherein said blunt end portion has a part-spherical shape.

45. (New) The device of claim 34, wherein said tip member is integral with said elongate member.

46. (New) The device of claim 34, wherein said tip member is mounted on said distal end of said elongate carrier member.

47. (New) The device of claim 34, wherein said tip member comprises:
a lumen radially-disposed within said tip member.

48. (New) The device of claim 47, wherein elongated carrier member further comprises:
a lumen extending therethrough, said lumen configured to allow a stiffening element to be inserted through said elongate carrier member and to allow a distal end of said stiffening element to extend into said lumen in said tip member.

49. (New) The device of claim 34, wherein said tip member has substantially uniform bending stress distribution in an axial direction.

50. (New) The device of claim 34, wherein said tip member is adhered to said elongate member using a liquid silicone rubber adhesive.

51. (New) The device of claim 2, wherein said lumen radially-disposed within said tip member is about 0.4 mm in length.

52. (New) The device of claim 2, wherein said lumen radially-disposed within said tip member is about 0.125 mm in diameter.

53. (New) The device of claim 2, wherein said blunt end portion is about 0.04 mm in length.

54. (New) The device of claim 2, wherein said diameter of said blunt end portion decreases from about 0.2 mm at a proximal end of said blunt end portion to about 0.0 mm at said distal end of said blunt end portion.

55. (New) The device of claim 34, wherein said lumen radially-disposed within said tip member is about 0.4 mm in length.

56. (New) The device of claim 34, wherein said lumen radially-disposed within said tip member is about 0.125 mm in diameter.

57. (New) The device of claim 34, wherein said blunt end portion is about 0.04 mm in length.

58. (New) The device of claim 34, wherein said diameter of said blunt end portion decreases from about 0.2 mm at a proximal end of said blunt end portion to about 0.0 mm at said distal end of said blunt end portion.

59. (New) An elongate electrode array device for implantation into a cochlea, comprising:
an elongate carrier member formed of a first material;
at least one electrode mounted on said carrier member; and
a tip member extending distally from a distal end of said elongate carrier member,
wherein said tip member is formed of a second material that is different than said first material..

60. (New) The device of claim 59, wherein said first material has substantially the same flexibility as said second material.

61. (New) The device of claim 59, wherein said first material has a relatively lesser stiffness than said second material.

62. (New) The device of claim 59, wherein said first material is configured to undergo a decrease in stiffness upon implantation into the cochlea.